

WE CLAIM:

1. A method for determining cyclase inhibiting parathyroid hormone (CIP) in a sample comprising :

- a) adding to the sample a labeled antibody or antibody fragment specific for a peptide sequence for CIP that presents an epitope available for antibody binding in CIP, but will not bind to this same peptide sequence in cyclase activating parathyroid hormone, in an amount sufficient to bind the CIP present;
- b) allowing the labeled antibody to bind to any CIP present, thereby forming a complex; and
- c) measuring the amount of labeled complex.

2. The method of Claim 1 wherein the labeled CIP antibody or antibody fragment is one of the following, a monoclonal antibody and a polyclonal antibody.

3. The method of Claim 1 wherein a second antibody is added which is bound to a solid support and specifically binds to a portion of CIP other than that of the labeled antibody, thereby forming a complex.

4. The method of Claim 3 wherein the solid support is selected from the group consisting of a protein binding surface, colloidal metal particles, iron oxide particles, latex particles, and polymeric beads.

5. The method of Claim 3 wherein the complex precipitates from solution.

6. The method of Claim 1 wherein the label or signal generating component is selected from the group consisting of chemiluminescent agents, colorimetric agents, energy transfer agents, enzymes, fluorescent agents, and radioisotopes.

7. A method for measuring the amount of cyclase inhibiting parathyroid hormone (CIP) fragment in a sample comprising:
 - a) adding to the sample a first antibody or antibody fragment specific for a peptide sequence for CIP that presents an epitope available for antibody binding in CIP, but does not bind to this same peptide sequence in cyclase activating parathyroid hormone, in an amount sufficient to bind the CIP present;
 - b) allowing the first antibody to bind to any CIP present, thereby forming a complex;
 - c) labeling the complex by means of adding a second antibody that has a label or signal generating component attached thereto and that specifically binds to a portion of CIP other than the initial peptide sequence which binds to the first antibody and allowing the second antibody to bind to the complex; and
 - d) measuring the amount of labeled complex.
8. The method of Claim 7 wherein the second labeled antibody is added sequentially or simultaneously with the first antibody.
9. The method of Claim 7 wherein the first antibody is bound to a solid support.
10. The method of Claim 7 wherein the second labeled antibody binds either to the mid-portion of CIP or the C-terminal of CIP and also comprising adding at least a third antibody that specifically binds to an epitope left open after CIP binds to the first antibody and the second antibody, thereby forming a precipitating mass.
11. The method of Claim 10 wherein the C-terminal CIP antibody is bound to a solid support.
12. A method for measuring cyclase inhibiting parathyroid hormone (CIP) by means of a precipitating or turbidometric immunoassay comprising:
 - a) adding to the sample a first antibody or antibody fragment specific for a peptide sequence for CIP that presents an epitope available for antibody binding in CIP,

but does not bind to this same peptide sequence in cyclase activating parathyroid hormone, in an amount sufficient to bind the CIP present, said antibody being attached to a colloidal particle or moiety which can be used to detect a signal change;

- b) allowing the antibody to bind to any CIP present, thereby forming a complex; and
- c) measuring the change in signal due to the formation of the complex.

14. A substantially pure antibody or antibody fragment sample a labeled antibody or antibody fragment specific for a peptide sequence for cyclase inhibiting parathyroid hormone that comprises an epitope available for antibody binding in CIP, but does not bind to this same peptide sequence in cyclase activating parathyroid hormone.

15. The antibody of Claim 14 wherein the antibody is one of the following, a monoclonal and a polyclonal antibody.

16. A kit containing reagents for performing an assay for cyclase inhibiting parathyroid hormone (CIP) comprising:

- a) a substantially pure antibody or antibody fragment specific for a peptide sequence for CIP that presents an epitope available for antibody binding in CIP, but is not specific for this same peptide sequence in cyclase activating parathyroid hormone; and
- b) a labeling component that binds to CIP, but not to the CIP antibody epitope bound by the first antibody.

17. The kit of Claim 16 also comprising an antibody specific for the C-terminal portion of CIP.

18. A kit containing reagents for performing an assay for cyclase inhibiting parathyroid hormone (CIP) comprising:

- a) a first substantially pure antibody or antibody fragment specific for a peptide

sequence for CIP that presents an epitope available for antibody binding in CIP, but does not bind to this same peptide sequence in cyclase activating parathyroid hormone; and

- b) a second antibody that binds to CIP, but not to the first CIP antibody epitope, which is bound to a solid support.

19. The kit of Claim 18 also comprising an antibody specific for the C-terminal portion of CIP.

FOIA b 7 - DFOI 2013-042666